

CALVING EASE

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Getting Equipment Clean Under Cold Conditions

- **Maintaining wash solution temperature of 120° (49°C) is essential.**
- **Preheat wash sinks before filling with wash water.**
- **Pre-wash rinsing with lukewarm water helps prevent wash water chilling.**
- **Use a floating rapid-read thermometer to check wash water temperature.**
- **Protect your hands with quality rubber gloves and clothes with a wash apron.**
- **Dump and refill rather than trying to “warm up” soiled wash water.**

Chemistry of washing milk containers

The organic nature of milk with its fats, sugars, and proteins as a colloid means we cannot depend on “ordinary” washing procedures to clean milk covered surfaces. Effective manual removal of milk residue depends on not only on the correct detergent solution and brushing but also on maintaining the right solution temperature.

Maintaining wash solution temperature of 120° (49°C) or above is essential.

There is no magic about this number, 120. It is simple chemistry. Recall that the protein and fat particles we have carefully brushed from equipment surfaces do not dissolve in the wash water. They are suspended. If the wash water gets cool enough to feel comfortable for our hands, these particles are coming out of suspension. They can stick on the bottles and pails we think we are washing. It is possible that with water that has cooled below 120°, a nursing bottle, feeding bucket or milking pail might come out of the wash water with more solids on it than were present when it went into the water.

Preheat wash sinks before filling with wash water.

Many of us have utility rooms that are quite cool during the winter months – some just above freezing. If we are fortunate enough to have a stainless steel sink for washing it will also be just above freezing as we start our washing up work. During winter time I always ran about five gallons of hot water in my sink. It let it sit there while I put on my wash apron and rubber gloves. My sink drain went onto the floor to run into a floor drain. So, I

caught this warm water in five-gallon pail to use rinsing my feeding pails and tubs – it was already only lukewarm – perfect for prewash rinsing (that is, less than 120°).

Pre-wash rinsing with lukewarm water helps prevent wash water chilling.

I fed my calves in hutches outdoors all winter long. Much of my equipment had snow and ice on it at the end of feeding. My prewash rinse with lukewarm water removed not only the milk residues but also all the snow and ice. Even if you feed in a warmer environment prewash rinsing will remove cold milk residues that can chill your wash water.

Use a floating rapid-read thermometer to check wash water temperature.

For sure, don't depend on your hands to be a reliable way to estimate wash water temperature. Hands are especially unreliable when we come in from a cold environment. Use a thermometer. Here is a tip from Pam Sojda from Offhaus Dairy. Cut out a piece of Styrofoam packing about 1" thick and about 1.5" square. Push the stem of a rapid read thermometer through this square block of Styrofoam. Presto! You now have a floating thermometer. No hands needed – just let it float in the wash water. Because I have to take my glasses off when washing up I cannot see the numbers very well on one of these thermometers. I took a tag marker pen and made a line on the face of the thermometer at 120°. All I had to look for was the needle falling below this line to see it was time to change my wash water.

Protect your hands with quality rubber gloves and clothes with a wash apron.

Very few persons can work effectively in water above 120° without rubber gloves to protect their hands. Hardware and grocery stores all sell these at a reasonable price. Make sure to buy at least two pairs. When a rubber glove springs a leak it is a total loss – you cannot get it off quickly enough when working in 135-140° water. Do not even consider using the gloves we use in milking parlors – not enough thermal protection.

Dump and refill rather than trying to “warm up” soiled wash water.

I don't want to bore you with the physics of specific heat, therms, and other things. Just take my word for it that it is more cost effective to dump soiled wash water and replace it when it drops below 120° than to add a large volume of hot water to “warm it up.” Cleaner, too.

If you know of someone that doesn't currently receive Calving Ease but would like to, tell them to **WRITE** to Calving Ease, 11047 River Road, Pavilion, NY 14525 or to **CALL** 585-591-2660 (Attica Vet Assoc. office) or **FAX** (585-591-2898) or **e-mail** calvingease@rochester.rr.com with Subscribe as the subject. Back issues may be accessed on the Internet at either www.atticacows.com or www.calfnotes.com and clicking on the link, Calving Ease.

Remember to Google “Calves with Sam” blog for profit tips for calf rearing.

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